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CLAY MODELING

Clay modeling is by no means a new factor in the school curriculum, yet for some reason educators have devoted less time to discussing it, at least in print, than to almost any other subject taught.

To one who believes strongly in the educational value of modeling, the realization of this dearth of literature on the subject comes with some feeling of shock. Psychologists, teachers, and artists have discussed drawing and painting as a means of expression and thus of education, and have produced a considerable volume of material concerning the value of those studies in elementary and secondary grades. Then why is there not more discussion of modeling?

This question forces one to analyze his own point of view, to search for reasons for his confident belief that clay modeling can do some things for the pupil which cannot be done by any other study in the curriculum and can do other things *better* than they are done by any other study.

The acquisition of any new art means acquiring a new way of seeing, thereby widening one's possibilities of expression—increasing one's expression vocabulary, as it were. But what does clay modeling do in particular?

In trying to answer this question to myself, I have made a list of arguments which seem to me valid for the use of clay in schools, considering first, modeling in general; second, figure modeling (*sculpture* seems too dignified a term for the childish shaping of animals and people, in the round or in relief, which we do in school); and third, pottery. I have also cited quotations from thoughtful students of the subject to corroborate my arguments, and I have further reënforced them by experiences we have had in this school. In this list, the first reason given is the children's reason. The other points are the teacher's motives for putting this study into the school. Under the head of modeling in general, there are eight points; under figure modeling there are five points, three of which apply to modeling in the round, and two to modeling in relief; under pottery work, there are eight points.

I. CLAY MODELING IN GENERAL

1. In considering whether or not a subject has a place in the curriculum, one has to begin by asking whether it is one in which the children can see real value; for if they have no sense of vitality in the thing they are doing, that thing cannot be really educative. The answer to this question is so obvious in regard to clay work that it seems almost unnecessary to state it, but, since it is as important as obvious, it must be written down.

Almost all children love to manipulate clay, and they take great pleasure in using it either to illustrate some point in their work for other departments, or to make objects which they may keep for their own use or present to their relatives and friends or to the school.

The love of manipulating a plastic substance is a race heritage, a natural instinct of all ages, peoples, and times. Clay invites punching and shaping, just as a smooth surface invites marking. This instinct is one form of the "sense-hunger" born in man to lead him into developing the artistic and utilitarian possibilities of his environment and thus raising his own social plane.

Making objects for gifts is a thoroughly social motive which results in vigorous effort to produce good work; and many really attractive articles, especially in pottery, are made by the children. Among the gifts they have made to the school are jars, bowls, and vases for flowers; a chocolate pot and set of cups to be used at faculty committee meetings (a boy in the metal department made a copper tray to go with the chocolate set); desk sets; casts of various subjects in relief and in the round. Among the latter is a bust of "Mr. Pecksniff," made by an eleventh-grade student (in 1912—the Dickens Centennial Year) for use as property in the Senior play, which was a dramatized version of "Martin Chuzzlewit."

2. Modeling is a great creative activity.

The exercise of the creative instinct gives one a sense of power that cannot be equalled by any other sort of activity. The more of this creative power the individual possesses, the more he can contribute to society. Therefore all possible creative avenues should be opened to him, that he may choose the one that offers him the freest opportunity for expression. Modeling has been one of the great mediums of expression of the world, and we have no more right to close doors of opportunity before the embryo Michelangelo than before the embryo Shakespeare. We should think it a crime to give a child with a literary gift no chance to put his thoughts into writing. It is just as truly a crime not to give the child who neither speaks nor writes fluently, but whose fingers can speak freely with clay, no chance to say his say to the world. It is mere justice to give a boy who is painfully embarrased when he has to stand up and talk before the school the chance to show that, though he cannot do that easily and is not strong enough to shine in athletics, there is a field in which he can be a leader in the class and can make a sort of contribution to the class work which no one else is able to make, or, at least, to make so well.

3. Since knowledge of form depends chiefly upon the tactual sense, it must follow that to train that sense to delicacy of perception and execution must correspondingly enhance one's sensitiveness to form.

Dr. O'Shea* says, "Form is mainly a *motor* thing, so to speak; the retina alone gives but signs which must be filled out from motor experience." Modeling affords excellent opportunity for this motor "filling out." It records the actual shape in contrast to drawing, which records one aspect of the shape—a reduction from three dimensions to two. That this reduction is a complex process is shown by the curious drawings of children and primitive people, in which they attempt to express, by a combination of full face and profile views, facts that can be expressed properly in drawing only by an understanding of foreshortening.

There is no possibility of "bluffing" about form with clay, for one cannot hide any ignorance of form by change of position of the object. Modeling gives opportunity for the motor-minded child, just as graphic art does for the eye-minded and music for the ear-minded. This applies even more to children having defective eyesight than to those who merely have the predominating learning channel through the fingers. A certain high school pupil who has about one-third normal vision and writes and draws very poorly in consequence, can make quite acceptable pottery.

4. Clay is the simplest and most direct medium for expressing the great majority of three-dimension images.

Colonel Parker† says, "Modeling stands next to making in the nearness of its realization of the actual object to be represented." But

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*Dynamic Factors in Education, p. 163.
†Talks on Pedagogics, p. 243.

making, although a truer realization of the concept in some things children want to express—furniture, boxes, sleds, etc.—is impossible in the entire realm of nature, where clay, on the other hand, can realize the concept in a very satisfactory manner. Moreover, materials used in making, such as wood and cardboard, are much less tractable than clay. Mistakes in them are difficult to correct—in clay, very easy. Clay requires no preliminary mastery of tools, such as is demanded for wood-working, for a great deal of very satisfactory modeling is done without other tools than the fingers.

That clay is a simple and natural material for expression is proved by its almost universal use, even in the most primitive stages of society, and also by the readiness with which kindergarten children learn to use it successfully.

5. Clay is a convenient material for illustrative use because it is available both for quick sketch work recording immediate impressions and for careful analytical study.

6. Modeling is, in itself, a quieting, restful occupation, free from the nerve-wearing noise of wood or metal shop.

Miss E., a teacher, who was in a highly nervous state, found clay-modeling the most soothing occupation she could work at; Mrs. M., a high-strung society woman, suffering from nervous break down, was advised by her physician to undertake clay work and was much helped by it.

7. Clay is a material so universal and inexpensive* as to be available anywhere.

When glazing is impracticable, the ware may be biscuited (fired once) in brick, earthenware, or china kilns,† and finished with shellac or wax. If no kiln is available, plaster-casting can preserve the best work, especially reliefs, and for remaining pieces mere drying is often adequate for school purposes. Our kindergarten children sometimes make paper weights in the form of fruits. These are fired once, then the children paint them in the natural colors with water-color paints and finish by coating them with thin shellac. Older children may make pots decorated in Indian style, using for paint earth colors and metallic oxides applied upon the moist clay and, when the ware is

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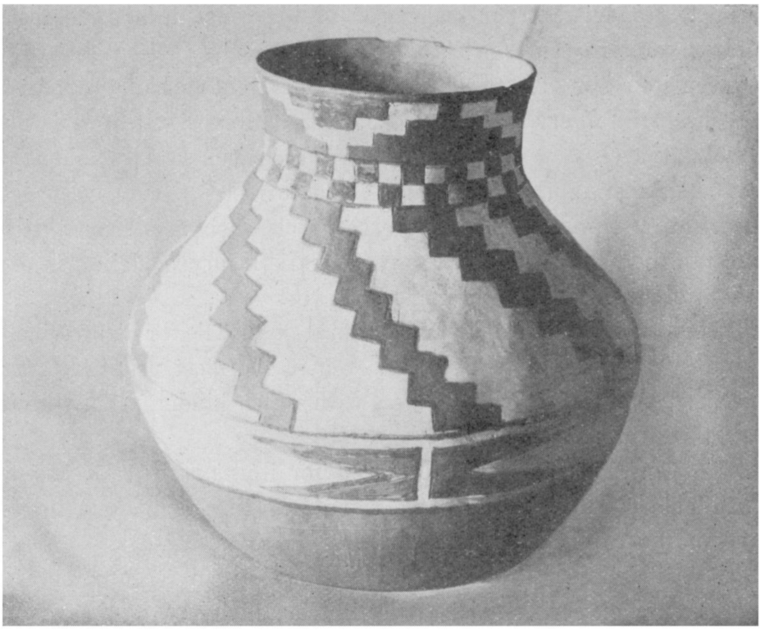
*We pay one cent a pound and carrying charges amounting to nearly one cent a pound. We buy by the barrel, which weighs 400 or 500 lbs.

†Not when china is being fired, lest the raw ware harm the decorated pieces.



17. INDIAN JAR MADE BY PUPIL IN SIXTH GRADE

dry, firing it once. Greek jars may be made of red clay,* the designs being painted with metallic black (copper and iron oxides), and the vessels fired once; or, if the child's skill is not equal to using this heavy pigment on fine details of pattern, the jar may be fired first and then painted with black water-proof ink. (See figs. 17, 18, and 19.)

The shaping of clay has significance, not only pedagogically and physically, but also as a symbol.

Edward A. Spring says:† "The moral effect of this occupation is special; the yielding nature of the clay seems to develop conscious power, and to prophesy the dominion over material nature—while the indestructibility [he means of fired clay, here] reveals the inexorableness of law—truths which are opposite but not contradictory."

There is certainly something of marvel, magic, mystery in the feeling one has as one watches a skillful modeler with a few touches

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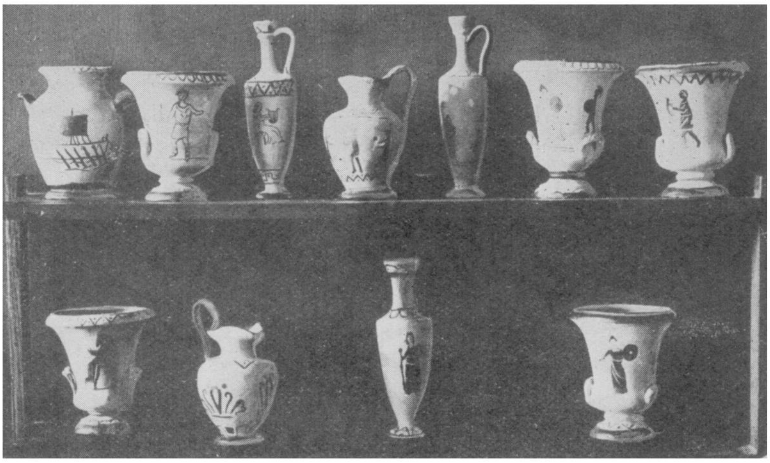
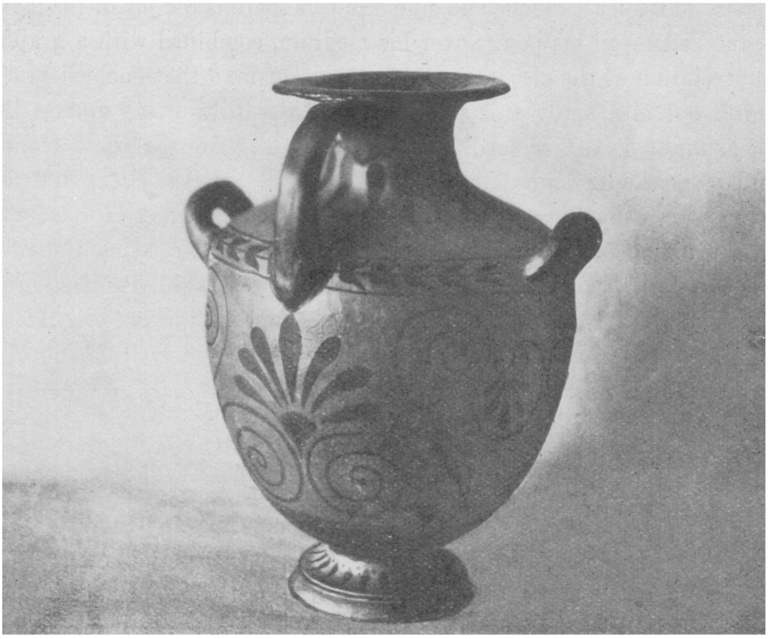
*Where good natural red clay is not available, as substitute use: 100 parts common gray clay, thoroughly dried, 10 parts burnt sienna (dry powder), 10 parts yellow ochre (dry powder), 3 parts barium carbonate (powder). Grind up with water to make slip, which may then be dried to consistency fit for modeling.

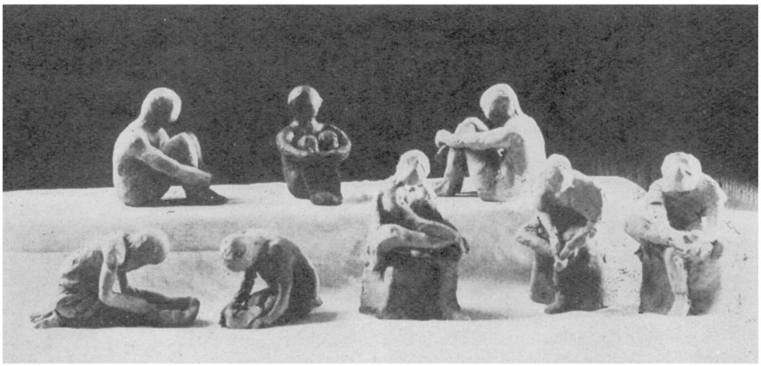
†"Clay Modeling for Kindergartners," Barnard's "Kindergarten and Child Culture Papers," p. 685.



18. GREEK JARS CAST, FINISHED AND DECORATED BY FOURTH GRADE PUPILS FROM WOODEN PATTERNS TURNED BY HIGH SCHOOL BOYS



19. GREEK JAR MADE BY ELEVENTH GRADE PUPIL



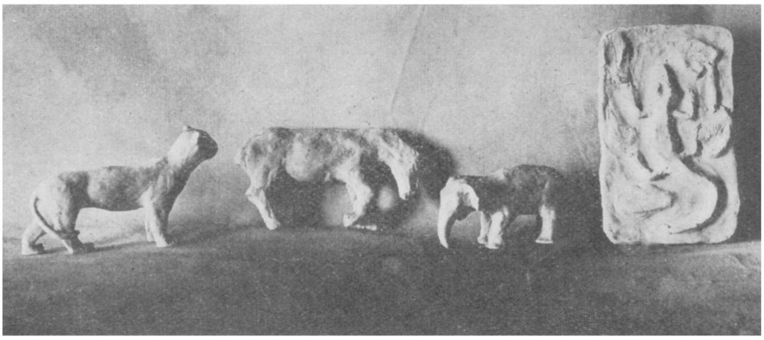
20. SKETCHES FROM LIFE BY NINTH GRADE PUPILS

transform a meaningless lump of clay into a figure full of action or into a charming piece of pottery. The sense of magic is especially strong as one watches a potter at his wheel. Even when one is the potter oneself, there is still a feeling of wonder at the instantaneous response to the least touch; and added to this there is the joy of the maker —the artist—in his power over his medium, combined with a grateful appreciation of the cleverness in the brain of man that enabled him to think out and apply this particular harness to nature's forces, that they might serve his need. Longfellow has expressed these feelings in his poem, "Keramos," and Browning in "Rabbi Ben Ezra," but such expression is by no means limited to the modern poets. Horace, writing "De Arte Poetica," uses the shaping of a jar as a symbol of unity and fitness in endeavor; and in Jeremiah XVII, the Prophet draws a lesson from watching the clay in the hands of the potter. If this lesson has been worth while to people of such widely differing ages, may it not be worth something for our children?

II. ILLUSTRATIVE MODELING

(a) *Modeling in the Round.*

1. Modeling in the round gives opportunity for the same kind of dramatization that children delight in when playing with a toy village or doll's house. It has, however, the additional values of increased range of subjects (farm, Indian village, Arab camp, animal habitat groups, etc.), and a new fund of information gained by the



21. MEMORY SKETCHES BY PUPILS OF SIXTH GRADE

children through observing and recording in their own handiwork facts they know, instead of merely playing with ready-made toys.

2. This sort of modeling demands careful observation; much comparison of type with type; study of proportion; details of anatomy and costume, etc. (See figs. 20 and 21.)

A boy who came into our school in the second grade drew very well, but had never modeled. His first clay animals—some pigs——were flat, like animal crackers; for, having made many flat drawings, he retained the impression of that flat expression in spite of having seen the real thing. But after he had once felt the roundness of a clay pig made by another child, he began to shape his properly, and then his drawings, which had previously been outlines only, began to show details within the outlines: the limbs stood out from the body, near and farther legs were distinctly indicated, etc.

3. Figure modeling leads to an acquaintance with, and love for, the great sculpture of all ages, one of the greatest fields of esthetic enjoyment and culture.

Children having modeled various well-known casts, find themselves greeting these as acquaintances when seen at the Art Institute; the originals seem old friends when encountered in European galleries. Postcards come back from London, Paris, Florence, or Rome, saying: "Saw the Spinario (or Venus de Milo, or Jeanne d'Arc, or the Medici tombs) today and thought of you and of the class." Having themselves tried to make figures, the children have great added respect for real sculptors and are immensely impressed when given the opportunity to see a sculptor at work. Such remarks as these are common: "I had to wait an hour down town Saturday, so I went to the Art Institute and looked again at the statues we saw last week, when the class went there. How could the Greeks make such beautiful figures, when they hadn't many beautiful statues to look at first?" "How long did it take Mr. Lorado Taft to make 'The Great Lakes' fountain, and did he have to try over many times before he made it so beautiful?" "Mr. Taft has very beautiful dreams, and I hope he'll be able to make them all come true in marble."

(b) *Modeling in Relief.*

1. Relief modeling affords opportunity to represent certain subjects which are difficult to execute in the round, such as certain historic scenes, or illustrations representing flying creatures, trees, flowers, ships, etc. (See fig. 22.)

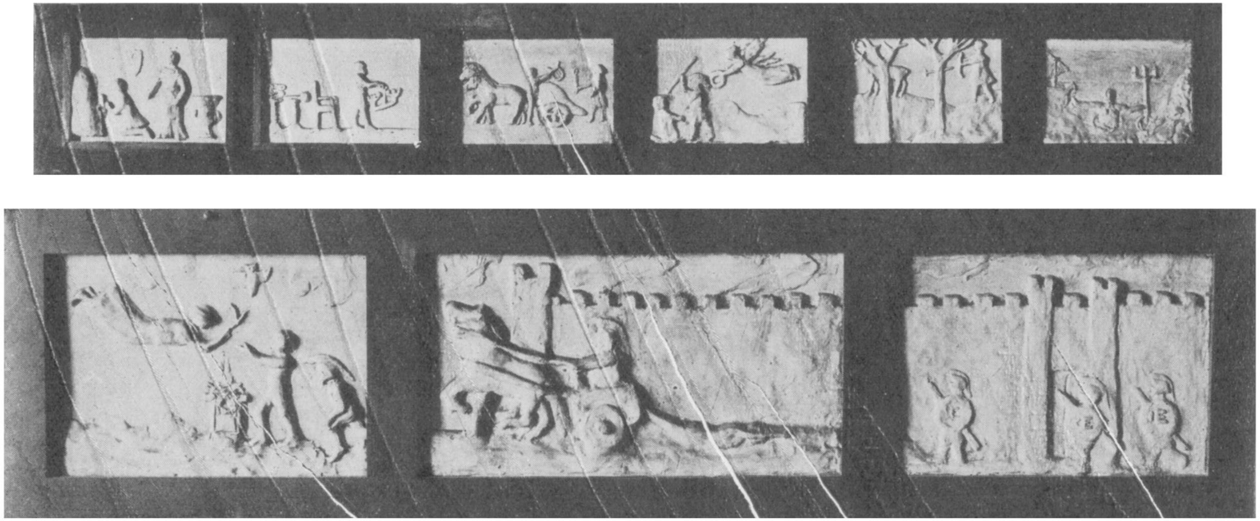
2. This kind of work affords a rich opportunity for the study of decorative design, especially in the application of plant form to ornament. Charming decorative plaques or panels may be made in this medium for wall decoration or for insets in window boxes or other furniture.

III. POTTERY

1. Pottery work demands a degree of accuracy and care in the manipulation of material (lest the lopsided vase upset or the ill-welded one burst in firing) not to be looked for, especially from young children, in illustrative work.

Even little children will work for several lessons on a piece of pottery without showing fatigue or lack of interest, for they can see constant progress toward more perfect form. The habit of making the expression correspond exactly to their image strengthens and clarifies the latter, which in turn produces better expression. But in modeling animals or people, the form is much more complex; there are so many details that all but the most prominent ones are lost sight of; and when these few salient features are expressed to the child's satisfaction (which can be done in a few moments), he has done all he can do with the object, till a new experience of the thing he is trying to express—another visit to the farm, the Zoölogical Garden, or the museum—makes him conscious of the presence of other factors than those he had previously recognized, or of inaccuracies in his recording of them.

2. Pottery making uses both hands in the same coördinations more than any other departments except that of physical training,



22. RELIEFS OF GREEK SUBJECTS MADE BY PUPILS OF FOURTH GRADE

Above—Athene as Patron of Useful Arts; Zeus Weighing the Souls of Men; Hermes Bringing Apollo the Lyre; Victory Crowning a Victorious Warrior; Artemis Hunting; Poseidon Guarding a Ship from Rocks.

Below—Athene Answering Prayers of Warriors; Hector and Patroclus; Greek Soldiers Before the Wall of Troy.

thus developing in the left hand the deftness usually limited to the right, and thereby strengthening the sense of bi-symmetry.

Mr. Spring says: "Many children are rendered clumsy for life by using only the right hand. Modeling necessitates a skill of both right and left, and children acquire it rapidly."

3. The designing and making of pottery awakens a sensitiveness to symmetry, beauty of proportion, subtlety of curve, especially to the fitness of the object and its decoration to its use, which few other arts can equal.

Dr. Montessori,* after speaking of the historical and religious significance of the potter's art, continues: "Besides the civil and moral importance of the vase, we have another and practical one, its literal adaptability to every modification of its form, and its susceptibility to divers ornamentation; in this it gives free scope to the individual genius of the artist."

4. Pottery affords opportunity for many kinds of decorative treatment: stamping; incising; inlaying; decorating in relief; and painting with slip, with under-glaze color, or with glaze. It thus lends itself to skill of any degree.

5. The potter's art gives opportunity for the child, especially the boy, who has a gift for mechanical accuracy but lacks the imagination to express himself freely in illustrative modeling or drawing, to work in a medium less rigid than wood or metal, and so to give grace and flexibility to his ideas of form without turning him adrift on the—to him—uncharted sea of imaginative modeling. It also affords a chance for older children, whose critical faculties have developed beyond their executive powers, to make really beautiful and useful objects when they cannot make sculptural studies that satisfy their esthetic ideals. (See fig. 23.)

6. Pottery arouses an interest in the history of civilization as handed down in the almost universal records of the potter's art. It correlates closely with the other work in history, nature study, commercial geography, and, in the subject of glazes, with chemistry.

Dr. Montessori,† following Professor Randone, has much to say upon the value of pottery as a means of teaching respect, appreciation, and love for objects, monuments, buildings, etc. She considers it a really important part of civil education.

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*Montessori Methods, pp. 164-5.
†Montessori Methods, p. 163, *et seq.*

23. POTTERY MADE BY CHILDREN FROM FOURTH TO TWELFTH GRADES

7. The terra cotta industry, including building terra cotta, brick and tile making, and pottery, is the third mineral industry of the United States, only coal and iron surpassing it in importance. Therefore, it deserves consideration in the school curriculum. An industry affecting so many people ought to be a means of lifting national esthetic standards and, through esthetic, moral ones. This cannot be done except by the trained manufacturer's responding to, and in return stimulating, an intelligent and refined public taste. By developing in children high esthetic standards for clay forms, we help to produce national good taste and, thereby, good morals; for, as Ruskin says, "What we like determines what we are, and to teach taste inevitably determines character."